

In the Claims

WHAT IS CLAIMED IS

1. (Currently amended) An isolated complex comprising one or both of complement activation product C5, and membrane attack complex (C5b-9) associated with GlGcirculating immune complex.

2. (Currently amended) A method for inhibiting the formation of a non-covalent combination of MAGmembrane attack complex and GlGcirculating immune complex comprising application of an inhibitor selected from the group consisting of a monoclonal antibody, peptide mimotope, or small molecule in patients suffering from complement and circulating immune complex mediated diseases, ~~including but not limited to SLE, RA, cardiovascular diseases, kidney diseases, and autoimmune diseases.~~

3. (Currently amended) A method for screening candidate compositions or processes for an ability for inhibiting the formation of MAGmembrane attack complex on GlGcirculating immune complex comprising assessing the composition or process for the reduction in MAGmembrane attack complex associated with GlGcirculating immune complex as a result of the application of the candidate composition or process.

4. (Currently amended) ~~The use~~A method of monitoring ~~or measuring~~ the formation of MAGmembrane attack complex and other split products of C5 on GlGcirculating immune complex from the serum, plasma, cerebrospinal fluid and other bodily fluids in diseases associated with complement and GlGcirculating immune complex pathogenesis comprising measuring the formation of said products and assessing for symptoms of said disease, ~~including but not limited to autoimmune diseases, cardiovascular diseases, neurodegenerative diseases, infectious disease and oncological diseases.~~

5. (Currently amended) Isolated complexes comprising one or more of the group consisting of non-covalent linked complement split products C1q, C3, C4, C5 and MAGmembrane attack complex on ClGcirculating immune complex.

6. (Currently amended) A method of inhibiting non-covalent association of C1q, C3, C4, C5 and MAGmembrane attack complex to ClGcirculating immune complex comprising application of an inhibitor selected from the group consisting of a monoclonal antibody, peptide mimotope, or small molecule in patients suffering from complement and ClGcirculating immune complex mediated diseases, ~~including but not limited to systemic lupus erythematosus, rheumatoid arthritis, cardiovascular diseases, kidney diseases, and autoimmune diseases.~~

7-8. (Cancelled)

9. (Currently amended) A process for quantitative measurement for the presence of complement C5 and C5b-9 associated with ClGcirculating immune complex, the process comprising the following steps:

- a. Providing a test device comprising a receptor preparation in solid phase as a capture reagent for ClGcirculating immune complex;
- b. Establishing a selected working range for ~~an~~ an immunoassay within said ranges of composition of ClGcirculating immune complex, IgG-CIC 2 to 1000 µg/ml, IgA-CIC 0 to 1000µg/ml, IgM-CIC 0 to µg/ml, C1q bound to CIC 0 to 10 µg/ml, C3 bound to CIC 0 to 30 µg/ml, C4 bound to CIC 0 to 10 µg/ml, C5 bound to CIC 0 to 10 µg/ml and C5b-9 0 to 10 µg/ml;.
- c. Constructing a standard assay curve by plotting relative degree of immunochemical binding of said ClGcirculating immune complex components to the test device;
- d. Interacting a fixed concentration of immunospecific conjugate of said substances, the composition of complexes resulting from said immunological substances and immunospecific conjugate being within the selected working range limits;
- e. Providing a test system comprising of said test device, said immunospecific conjugate, said immunological substances, the amount of said immunospecific conjugate being substantially equivalent to said fixed concentration of immunospecific conjugate, and the amount of said immunospecifically determinable

substance being appropriate to produce a known degree of immunochemical binding corresponding to a pre determined point on said standard curve, thereby enabling quantitative assaying of one or more of complement proteins C1q, C3, C4, C5 and C5b-9 present on ~~CI~~Circulating immune complex.

10. (Cancelled)

11. (Currently amended) A process for measurement of one or more complement proteins C1q, C3, C4, C5 and C5b-9 from plasma or other bodily fluids of animals suffering from or at risk of suffering from a disease or condition, including but not limited to autoimmune, cardiovascular, neurodegenerative disorders, oncological diseases and infectious disease, said process comprising:

- a. Providing a test device comprising a receptor preparation in solid phase ;
- b. Establishing selected working ranges for said immunoassay within said ranges for complement proteins;
- c. Constructing a standard assay curve by plotting relative degree of immunochemical binding of said complement component(s) to the test device;
- d. Interacting a fixed concentration of a immunospecific conjugate directed to complement proteins and immunospecific conjugate being within pre selected working range limits;
- e. Providing a test system comprising of said test device, said immunospecific conjugate, said immunological substances, the amount of said immunospecific conjugate being substantially equivalent to said fixed concentration of immunospecific conjugate, and the amount of said immunospecifically determinable substance being appropriate to produce a known degree of immunochemical binding corresponding to a pre determined point on said standard curve, thereby enabling quantitative assaying of one or more of complement C1q, C3, C4, C5 and C5b-9 present on ~~CI~~Circulating immune complex.

12. (Currently amended) A process for quantitation of immunoglobulin isotype composition of ~~CI~~Circulating immune complex or antigens bound within ~~CI~~Circulating immune complex comprising using an ELISA based on receptor based capture mechanism, said process comprising:

- a. Placing the receptor on solid phase of ELISA plates, micro beads or other suitable surface;
- b. Attaching the biotin or other form of detection tag on the antigen or antibody;
- c. Mixing the tagged antigen or antibody with the patient plasma, patient serum, sinuovial fluid, cerebrospinal fluid (CSF) or other bodily fluid;
- d. Placing the mixture in contact with receptor attached to the solid surface;
- e. Washing the unbound components with buffers;
- f. Quantitating the tagged antigen or antibody with a reagent including, but not limited to Avidin-Horse Radish Peroxidase and color development reagents.

13. (Currently amended) A process as set forth in claim 3 for screening the composition of a blocking agent for the formation of MAGmembrane attack complex and deposition of C5 on GlGcirculating immune complex.

14. (Cancelled)

15. (Currently amended) A process for screening a composition that targets blocking of complement activation or other component assembly in the GlGcirculating immune complex as set forth in claims 11 and 12, and modulating the binding of serum acute phase proteins bound to GlGcirculating immune complex, said process comprising:

- a. Attaching the receptor to solid phase or studying the interaction in the liquid phase, allowing the interaction of the GlGcirculating immune complex with the receptor in presence of complement proteins to activate complement deposition or other acute phase proteins on GlGcirculating immune complex;
- b. Placing the blocking composition during the activation of the complement on GlGcirculating immune complex or association of serum acute phase protein;
- c. The composition being selected from the group consisting of a chemical, biochemical, protein, peptide and monoclonal ;
- d. Obtaining initial data indicating whether the formation of MAGmembrane attack complex and binding of complement C1q, C2, C3, C4, and C5 is inhibited on the GlGcirculating immune complex;
- e. Obtaining data indicating whether the serum acute phase proteins associated with the GlGcirculating immune complex is inhibited.

16-17. (Cancelled)

18. (Currently amended) A method of reducing disease symptoms in an individual comprising: identifying an individual in need of reducing the symptoms due to increased complement fixation on GlCcirculating immune complex leading to inflammation and tissue necrosis by administering a composition comprising a monoclonal antibody, peptide, mimotope or active molecule

19. (Currently amended) A process in accordance with claim 11 ~~or 12~~ that further comprises contacting a receptor during interaction with GlCcirculating immune complex and complement with at least one of a humanized monoclonal antibodies, active molecules, peptides and mimotopes and obtaining data indicative of whether the activation of complement has been inhibited.

20. (Original) A process in accordance with claim 17 that further comprises inoculating patients or animals with the immune complex and composition, wherein the immune complex mediated immune responses are altered providing beneficial effect.

21. (New) The method of claim 2 wherein the disease is selected from the group consisting of systemic lupus erythematosus, rheumatoid arthritis, cardiovascular diseases, kidney diseases, and autoimmune diseases.

22. (New) The method of claim 4 wherein the disease is selected from the group consisting of autoimmune diseases, cardiovascular diseases, neurodegenerative diseases, infectious disease and oncological diseases.

23. (New) The method of claim 6 wherein the disease is selected from the group consisting of systemic lupus erythematosus, rheumatoid arthritis, cardiovascular diseases, kidney diseases, and autoimmune diseases.

Remarks

Upon entry of this amendment claims 1-6, 9, 11-13, 15 and 18-23 are pending. Claims 7-8, 10, 14 and 16-17 were cancelled. Claims 1-6, 9, 11-13, 15 and 18-19 were amended. Claims 21-23 were added.

Support for the amendments can be found throughout the specification.

No new matter has been added.